

# G520 Series

IoT Cellular Gateway



## RUGGED LTE & 5G IOT CELLULAR GATEWAYS

LANTRONIX PERCEPXION | LANTRONIX Connectivity Services

### G520 Series is the Next-Generation IoT Cellular Gateways Designed for Industry 4.0, Security and Transport Applications.

The G520 series offers LTE Cat 4 and 5G cellular gateways to protect your long-term IoT application investment. Designed for industrial applications with built-in security to help prevent cyber-attacks, the G520 delivers a robust and reliable solution for the most mission-critical applications.

The G520 series devices come pre-enabled with the easy-to-use PercepXion™ IoT Edge Platform and cellular Connectivity Services cloud platform applications to increase operational efficiency directly. The rugged, compact, highly secure, industrial-grade cellular IoT gateways address the demands of application-specific use cases.

#### The G520 Series

The G520 series IoT cellular gateways provide a robust solution for many industrial applications and are available in three application-specific SKUs.

##### Industrial

- G526 LTE Cat 4 Ethernet, Serial, I/O, Fieldbus conversion and other industrial protocols

##### Transport

- G526 LTE Cat 4, GNSS, accelerometer, CAN Bus reading, and advanced tracking features

##### Security

- G527 LTE Cat 13 & 5G, Built-in cryptographic secure element and PSE-PoE
- G528 TAA compliance; 5G, Sub-6 GHz with both LTE cat. 13 (uplink) / cat. 20 (downlink) and 3G fall-back modes

#### High-Speed Cellular Communication

With LTE Category 13 uplink and Cat 7 downlink, the G527 Security Gateway is ideal for high throughput CCTV applications. The G528 provides a future migration path with 5G for your longer-term deployments

#### Built-in Security Framework with Lantronix InfiniShield™

The highest level of security for mission-critical applications is key to preventing growing cyber security threats. InfiniShield™ Security is a comprehensive suite of built-in device security, including a secure element chip to prevent unauthorized access of confidential information.

#### Industrial Design and Protocols

The G520 Series is designed specifically for industrial applications with Ethernet, Serial, I/O, and a protocol conversion suite. Connect virtually any factory equipment or vehicle using fieldbus protocols and CAN Bus.

#### Lantronix Software Services

PercepXion - This secure cloud platform provides comprehensive, ready-to-use device life cycle management, application integration and analytics through a single pane of glass.

<https://www.lantronix.com/percepXion/>

Connectivity Services - North American and global cellular data plans and VPN security with an easy-to-use cloud platform to manage your SIMs and services.

<https://www.lantronix.com/connectivity-services/>

#### Perfect For:



Industry 4.0



Security



Transport & Mobility



Smart City

#### G520 Series Highlights

- Pre-configured with PercepXion IoT Edge solution platform
- High-speed LTE and 5G support
- Fieldbus protocols conversion suite
- Industrial-grade design
- Secure crypto element

InfiniShield™ Security



- Secure boot
- Secure firmware updates
- Secure storage
- Secure communications
- Secure network attach

## Hardware

### Cellular

- LTE Cat 4 with 3G and 2G fall-back modes on industrial pack
- LTE Cat 13 (uplink) / 7 (downlink) with 3G fall-back mode on security pack only
- 5G, Sub-6 GHz with both LTE Cat 13 (uplink) / Cat 20 (downlink) and 3G fall-back mode

### Wi-Fi & Bluetooth Operation

- 2T2R Wi-Fi 5; via an RP-SMA antenna connector
- Bluetooth 5.1; via Wi-Fi's rightmost RP-SMA antenna connector
- Optional: 2T2R WiFi6/6E

### Ethernet

- 10/100 base Ethernet: One LAN port and one WAN port, user-reconfigurable as second LAN port; via RJ-45 headers fitted with two LEDs

### PSE-PoE+

- Security gateway only - 30 W per LAN port – requires U301 accessory

### Serial Communication

- RS-232 Full implementation; via a 9-pin sub-D header
- RS-485 via 5-pin COMBICON header

### USB

- One (1) USB host port; via a Type-A header

### I/Os

- I/OS (2) with common ground; via a 3-pin COMBICON header and a tool-less plug (I/O header and plugs are not provided)
- User-configurable, each one independently from the other, as (i) analogue input; or (ii) analogue input suited to current loop (aka 4 mA ~ 20 mA) sensors; or (iii) digital output
- INPUT: 0 V dc ~ 2.5 V dc → ZERO; 3 V ~ 50 V dc → ONE
- OUTPUT: open collector; 200 mA max.; 50 V dc max.

### Dual SIM

- Dual SIM / Single standby; via two \*\*mechanically secure mini-SIM holders\*\*

### Location Services & 3 Axis Accelerometer

- Qualcomm® IZat™ location services, gen. 8c/9c or u-blox M8 (transport pack)
- Concurrent GPS and GLONASS (security gateway 5G model)
- 3-axis accelerometer from STMicroelectronics LIS331DLH

### Memory & Data Storage Security Chip

#### RAM

- DDR2 SDRAM 256MB

#### SPI Flash Memory

- 8MB

#### User Data Storage

- Internal: via the 256 MB of parallel NAND Flash memory
- External: via a user-accessible microSD card (not provided), and USB Flash drive (not provided)
- Secure Element from MICROCHIP ATECC608 on security variant

### MFF SIM(s)

- Combination of (i) 'MFF + mini'; or (ii) 'mini + MFF'; or (iii) 'MFF + MFF' SIMs, substituted for the standard two mini-SIM trays. Contact us for the options.

### Physical Description

- Brushed aluminum alloy
- Size: (mm) 131.5 x 81.27 x 25 without connectors
- Weight: approximately 300g
- Operating Status LEDs: Nine as green for
- (i) POWER; blue for (ii) SIM; (iii) Wi-Fi; amber for (iv) Activity; (v) Network; (vi) Signal; yellow for user-programmable (vii) LED #1; (viii) LED #2; red for (ix) ALERT

### Temperature & Humidity Ranges

- Operating: -30 °C ~ +70 °C; up to 95% RH
- Storage: -40 °C ~ +85 °C; up to 95% RH

### CPU

- ARM926EJ-S-based CPU running at 600 MHz
- Built-in 32 KB instruction cache and 32 KB data cache

### Power

- Input voltage: 10.8 ~ 60 V DC
- 3-pin Nano-Fit™ header
- Last Gasp: 100-second long, approximately. 2.96 mWh Li-ion batteries (not functional below -10 °C)
- Digital Input (Ignition): One (1) digital input, on the third pin of the 3-pin header
- Input: 0 V DC ~ 2.5 V DC => ZERO; 3 V DC ~ 50 V DC => ONE
- Power off Timekeeping: Dedicated RTC with 100-day data retention period, approximately 15 mWh lithium manganese battery (not functional below -20 °C)

## Software Suite

### Administration & Network Protocols

- Web-based user interface, setup wizard, console log viewer, save / load configuration, NTP, SMS / OTA remote configuration, TR-069-capable

### Redundancy

- Ethernet, Cellular, Wi-Fi – configurable as failover or load balancing

### Resilience

- Network connectivity watchdog (configurable), internal application watchdog

### Wi-Fi

- Client or Access point (approx. 12 users), WEP, WPA, WPA-PSK / WPA2-PSK security modes

### Device Management Services

- Lantronix PercepXion™ platform or third-party platforms

### SDK

- Use G520 SDK to create custom packages and build custom firmware images.

### Performance & Fault Management

- Real time processor load and interface (WAN / LAN / Wi-Fi), traffic analysis, ICMP, trace-route, NS lookup

### Routing

- DHCP, static routing, port forwarding, traffic routing, static /dynamic DNS, DNS proxy, NAT, STP

### VPN & Tunneling Protocols

- PPTP client, L2TP, OpenVPN client / server / passthrough, GRE, IPsec up to 4 channel

### Security

- Zone-based firewall, VLAN, DMZ, HTTPS (local and remote connection, SIM PIN)

### Industrial Protocols

The G520 supports a wide range of industrial protocols:

- EtherCAT
- DLMS client
- DNP3 Outstation
- Modbus master
- IEC104 slave and IEC 101 master

And more protocols to come. Contact us or visit our website for the most up-to-date product specifications. [www.lantronix.com/products/g520](http://www.lantronix.com/products/g520)

### Ordering Information

Visit [www.lantronix.com/products/G520](http://www.lantronix.com/products/G520) for a full listing of part numbers and accessories.

- Power
  - POE+Power Supply MEANWELL SDR-75-48\_PS, 48VDC, 75Watt
  - Power Supply ACC-520-0165-00
- Antennas
  - Remote (3m), adhesive, IP67-rated
  - '3-in-1' LTE + LTE + GNSS A33M0 or A33H
  - '2-in-1' LTE + LTE A32M0 or A32H0, if GNSS were deemed unnecessary

## Product SKU

Part Number	Description
G526 Industrial Pack	
G526GP12S	Industry Pack LTE Cat 4 Router For EMEA, Asia Pacific
G526GP1AS	Industry Pack LTE Cat 4 Router For Canada, USA
G526GP1ASG	Industry Pack LTE Cat 4 Router For AMER TAA
G526GP17S	Industry Pack LTE Cat 4 Router For Japan, South Korea
G526GP1CS	Industry Pack LTE Cat 4 Router For China, Thailand, Indonesia, India
G526RP Transport Pack	
G526RP42S	Transport Pack LTE Cat 4 Router For EMEA/APAC
G526RP47S	Transport Pack LTE Cat 4 Router For Japan/S Korea
G526RP4AS	Transport Pack LTE Cat 4 Router For NA
G527/G528 Security Pack	
G527GP22S	Security Pack LTE Cat 7-13 Router For EMEA, Asia Pacific
G527GP2AS	Security Pack LTE Cat 7-13 Router For AMER
G527GP2ASG	Security Pack for AMER LTE Cat 7-13 TAA
G528GP2FS	Security Pack 5G Sub 6ghz LTE Cat 13 Worldwide
G528GP2FSG	Security Pack 5G Sub 6ghz LTE Cat 13 WW TAA
G528GP2FSGC	Security Pack 5G Sub 6ghz LTE Cat 13 WW TAA C-Band